011) 다음 복소수의 켤레(공액) 복소수를 구하라.

1) $\frac{1+i^3}{1+i} = z_1$

$z_1 = \frac{1+i^3}{1+i} = \frac{(1+i^3)(1-i)}{(1+i)(1-i)} = \frac{1+i^2+3}{2}$

$= \frac{4+i^2}{2} = 2+i = z_1$

$\therefore \overline{z_1} = 2-i$

2) $\left(\frac{1-i}{1+i}\right)^{44} = z_2$

$z_2 = \left(\frac{1-i}{1+i}\right)^{44} = \left\{\frac{(1-i)^2}{2}\right\}^{44}$

$= (-i)^{44} \quad ((-i)^2 = i^2)$

$\therefore (-i)^4)^{24} \cdot (-i)^3 = 1^{24} \cdot (-i)^3$

$\therefore z_2 = i \quad , \quad \overline{z_2} = -i$